

REMARKS

Applicants discovered that by heating manganese dioxide with a lithium ion source to a temperature between 40°C and 120°C, they can displace at least 75% of the protons in the manganese dioxide with lithium ions. As applicants explained on page 6 of the specification:

By performing the lithium exchange at higher temperature, for example, at 60 C or 100 C, it is possible to reduce or avoid destruction of cation vacancy sites and increase lithium uptake to replace 75 % or more of the protons originally present in the gamma-manganese dioxide.

Support for the range 40°C to 120°C can be found on page 5, lines 29-30 of the specification. This range has been incorporated into independent claims 1 and 9. Dependent claims 6 and 14 have been amended to specify that the range is between 60° and 100°C. Support for this range also can be found on page 5, lines 29-30. Claims 17-21 have been cancelled.

Applicants submit that the 35 U.S.C. § 112, ¶ 1 and 35 U.S.C. § 112, ¶ 2 rejections are moot in view of the amendments and should be withdrawn.

Claims 1-17 were rejected under 35 U.S.C. § 102(b) in view of Iltchev et al., U.S. Pat. 6,190,800 ("Iltchev"). Iltchev does not describe a lithiated manganese dioxide in which 75% of the protons originally in the manganese dioxide have been replaced with lithium ion. Iltchev does not recognize that such a high degree of replacement can be achieved or that such a high degree of replacement even would be desirable. Moreover, as the Examiner recognizes, Iltchev teaches that performing lithiation at 15°C to 35°C (effectively, ambient temperature) is preferred. As applicants point out in their specification (on page 6, first full paragraph), Iltchev replaces only about half of the protons with lithium ions. Iltchev certainly nowhere discloses or otherwise suggests that heating between 40°C and 120°C during lithiation can result in replacement of over 75% of the with lithium ions.

For the above reasons, applicants also request that the 35 U.S.C. § 102(b) rejection be withdrawn.

Please apply any other charges or credits to deposit account 06-1050.

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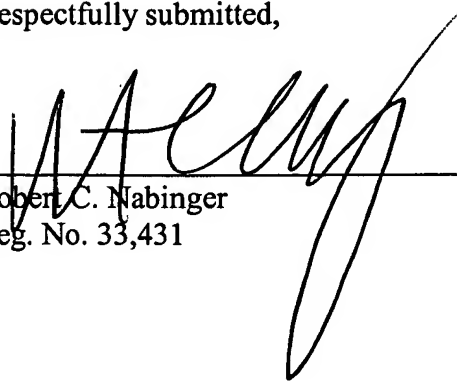
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Respectfully submitted,

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